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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER
SELLERS, DANIEL R

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,197

Applicant(s)

BELROSE ET AL.

Examiner

Daniel R. Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "23" has been used to designate both source position set/modify block and the user location input in Figures 1 and 10. The user location input is designated as "22" on page 13, line 30. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "18" and "19" in Figure 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the

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filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "126" in Figure 18. It should read "26". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "137" has been used to designate both the selection direction comparator and the data path between "155" and "15". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to

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avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "184" in Figure 23. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "43" from page 9, line 3 of the specification. Corrected drawing sheets in

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compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "50" from page 17, line 17 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "56" has been used to designate both limited audio leakage and a upper whisper zone, see page 18, line 8 and line 21. Corrected drawing

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sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "56" from page 18, line 8 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

10. The disclosure is objected to because of the following informalities: On page 29, lines 18 and 26, the collection collapse unit referred to is unit 83 and not 82 as it is written. On page 47, line 16, the trackball should be unit 161 and not 61.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 3, 13, and 23 recite the limitation "the indicator reference" in the preamble. There is insufficient antecedent basis for this limitation in the claim.

The office interprets this limitation as "the predetermined reference" in light of the parent claims 1, 11, and 21 respectively.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

14. Claims 1-5, 7-15, 17-25, and 27-30 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Slezak et al., U.S. Pat. No. 6,647,119 (hereinafter Slezak).

15. Regarding claim 1, see Slezak

An audio user-interfacing method in which items are represented in an audio field by respective synthesized sound sources from where sounds related to the item appear to emanate, the method comprising the steps of:

(a) generating an audio field in which said sound sources are synthesized at respective rendering positions to provide sounds related to the items concerned; (see the abstract)

(b) determining the relative location of a particular said sound source in the audio field with respect to a predetermined reference; (Col. 9, lines 49-59 and Fig. 10)

(c) providing an audio indication of said relative location of said particular sound source, as determined in step (b), as a said sound emanating from that sound source. (Col. 10, lines 1-9)

Slezak teaches these features.

16. Regarding claim 2, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches multiple sound sources.

17. Regarding claim 3, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches a presentation reference with respect to a straight-ahead facing direction of the user.

18. Regarding claim 4, the further limitation of claim 1, see Slezak

... wherein the said relative location of the said particular sound source dynamically varies as a result of variation of at least one of the predetermined reference and the rendering position of the sound source, step (c) dynamically changing said audio indication accordingly. (Col. 10, lines 20-49)

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Slezak teaches of a game using dynamically varied sound sources.

19. Regarding claim 5, the further limitation of claim 4, see Slezak

... including varying the rendering position of the said particular sound source by varying an offset between an audio-field reference relative to which the sounds sources are positioned in the audio field, and a presentation reference determined by a mounting configuration of audio output devices through which the sound sources are synthesised. (Col. 1, lines 33-43).

Slezak teaches of a moving sound source that is inherently varied by an offset which traverses the three-dimensional space.

20. Regarding claim 7, the further limitation of claim 5, see Slezak

... wherein said offset is varied in response to user input via an input device. (Col. 10, lines 9-15)

Slezak teaches a user movable sound source wherein an offset in the audio space is controlled via an input device.

21. Regarding claim 8, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches a system that has at least two degrees of freedom.

22. Regarding claim 9, the further limitation of claim 8, see the preceding argument with respect to claim 1. Slezak teaches positional sound sources that can be reproduced in three dimensions, which has three degrees of freedom. It is inherent that a sound source can be restricted to one degree of freedom (i.e. left to right, top to bottom, or front to back). Furthermore, Slezak teaches that the frequency or duration can be changed (Col. 10, lines 16-19).

23. Regarding claim 10, the further limitation of claim 1, see Slezak

... wherein at least some of the said items represented by the sound sources are audio labels for services, the method further involving selecting a service by selecting the corresponding audio-label sound source. (Col. 7, line 62 – Col. 7, line 17).

Slezak teaches a web-browser for browsing the Internet with audio indicators. Slezak teaches that the user can navigate "through the information" indicating that the user can select hyperlinks, or services, by selecting audio labels.

24. Regarding claim 11, see the preceding argument with respect to claim 1. Slezak teaches the features of an audio interfacing apparatus with these features.

25. Regarding claim 12, see the preceding argument with respect to claim 2. Slezak teaches multiple sound sources in the audio field.

26. Regarding claim 13, see the preceding argument with respect to claim 3. Slezak teaches a straight-ahead facing direction as the reference point.

27. Regarding claim 14, see the preceding argument with respect to claim 4. Slezak teaches dynamically varying the sound sources.

28. Regarding claim 15, see the preceding argument with respect to claim 5. Slezak teaches varying the offset of sound sources in the audio field.

29. Regarding claim 17, see the preceding argument with respect to claim 7. Slezak teaches that the offset is varied by user input.

30. Regarding claim 18, see the preceding argument with respect to claim 8. Slezak teaches that a relative position has at least two degrees of freedom.

31. Regarding claim 19, see the preceding argument with respect to claim 9. Slezak inherently teaches that a sound source can be restricted to one degree of freedom.

32. Regarding claim 20, see the preceding argument with respect to claim 10.

Slezak teaches that services can be selected by selecting a corresponding audio label.

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33. Regarding claim 21, see the preceding argument with respect to claim 1. Slezak teaches the features of an audio interfacing apparatus with these features.

34. Regarding claim 22, see the preceding argument with respect to claim 2. Slezak teaches multiple sound sources in the audio field.

35. Regarding claim 23, see the preceding argument with respect to claim 3. Slezak teaches a straight-ahead facing direction as the reference point.

36. Regarding claim 24, see the preceding argument with respect to claim 4. Slezak teaches dynamically varying the sound sources.

37. Regarding claim 25, see the preceding argument with respect to claim 5. Slezak teaches varying the offset of sound sources in the audio field.

38. Regarding claim 27, see the preceding argument with respect to claim 7. Slezak teaches that the offset is varied by user input.

39. Regarding claim 28, see the preceding argument with respect to claim 8. Slezak teaches that a relative position has at least two degrees of freedom.

40. Regarding claim 29, see the preceding argument with respect to claim 9. Slezak inherently teaches that a sound source can be restricted to one degree of freedom.

41. Regarding claim 30, see the preceding argument with respect to claim 10. Slezak teaches that services can be selected by selecting a corresponding audio label.

Claim Rejections - 35 USC § 103

42. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

43. Claim 6, 16, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak as applied to claims 5, 15, and 25 above, and further in view of the admitted prior art "Signal Processing, Acoustics, and Psychoacoustics for High Quality Desktop Audio" by Kyriakakis et al. (hereinafter Kyriakakis).

44. Regarding claim 6, the further limitation of claim 5, see Kyriakakis

... wherein said offset is varied to stabilise audio field relative to one of:

a user's head;

a user's body;

a vehicle in which the user is travelling;

the world;

this stabilisation taking account of whether the audio output devices are world, vehicle, body or head mounted, and, as appropriate, rotation of the user's head or body, or turning of the vehicle. (pp. 56-59, Desktop Audio System with Head Tracking)

Slezak teaches the features of the parent claim, but fails to teach a stabilizing function wherein the audio field is stabilized relative to a user's head. Kyriakakis teaches a head tracking function that stabilizes the audio field with the movement of the user's head. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak and Kyriakakis for the purpose of maintaining the correct spatial relationships during movement of a listener's head.

45. Regarding claim 16, the further limitation of claim 15, see the preceding argument with respect to claim 6. The combination of Slezak and Kyriakakis teaches the feature of stabilizing the audio field with respect to the user's position of their head.

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46. Regarding claim 26, the further limitation of claim 25, see the preceding argument with respect to claim 6. The combination of Slezak and Kyriakakis teaches the feature of stabilizing the audio field with respect to the user's position of their head.

Conclusion

47. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rohen, U.S. Pat. No. 5,186,629;

Nagamitsu et al., U.S. Pat. No. 5,467,401; and

Moorer, U.S. Pat. No. 6,904,152.

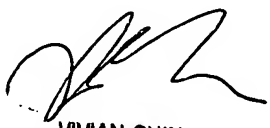
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS



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